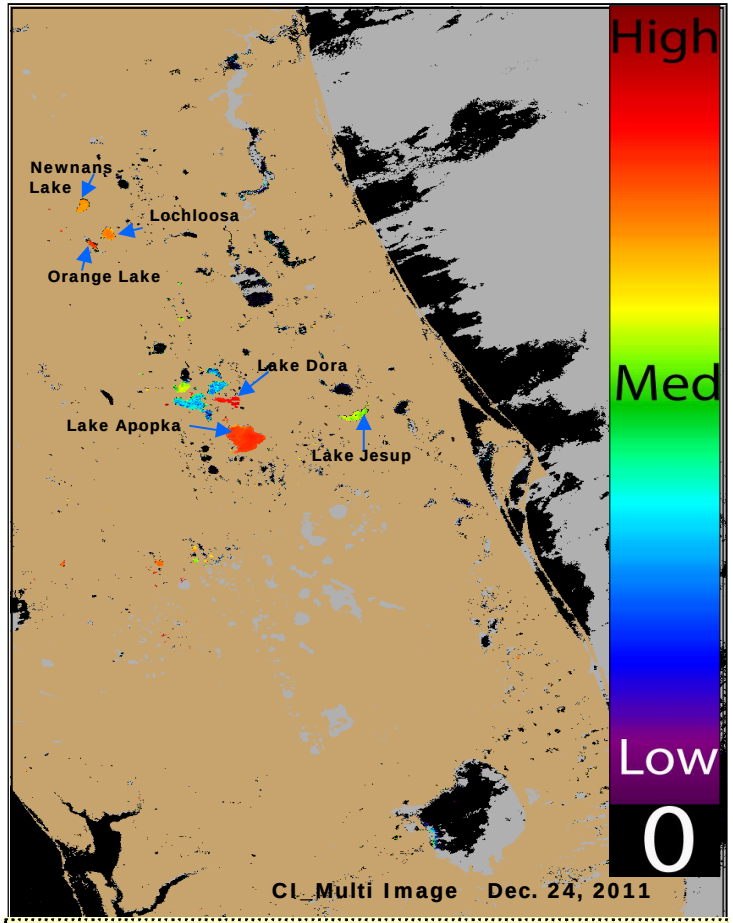
Experimental Cyanobacteria Health Bulletin: Dec. 24, 2011

To report an illness related to a marine toxin or algal bloom please contact the Florida Poison Information Center-Miami Aquatic Toxins Hotline at 1-888-232-8635.
For questions about the report: please contact Becky Lazensky, FL-DOH, at 352-955-1900. Images/data were obtained from Florida Water Management Districts, The National Oceanic and Atmospheric Administration (NOAA), NOAA National Climatic Data Centers and National Weather Centers. Support to produce this report was received through a NOAA/NASA Agreement (Number: NNH08ZDA001N)



If your agency has field sampling data on the regions shown in red, these data can be used to help validate the MERIS imagery. Contact Becky Lazensky at: 352-955-1900 to participate in future FDOH validation efforts.

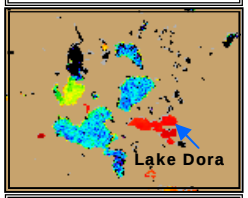
The MERIS Satellite Images above display a cyanobacteria index generated with a Medium Resolution Imaging Spectrometer (MERIS) satellite provided by the European Space Agency & NOAA.

- Very low likelihood of a bloom
- May indicate clouds or missing data
- Low cyanobacteria concentrations
- Medium cyanobacteria concentrations
- Probable bloom or higher cyanobacteria concentrations

CyanoHabs Conditions Report: Dec. 24

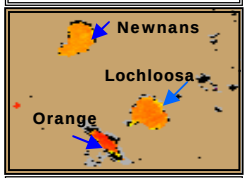
- In the Dec. 24th MERIS image Lake Dora (Lake County) displayed high elevated estimated cyanobacteria concentrations
- Lake Apopka (Orange/ Lake Counties) continued to display high estimated concentrations
- Newnans, Lochloosa and Orange Lakes in Alachua and Marion Counties displayed a high estimated cyanobacteria concentration
- Lake Jesup (Seminole County) displayed moderately elevated estimated cyanobacteria concentrations

Lake Dora

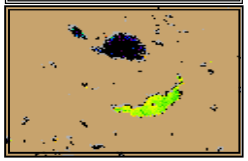


Lake Apopka

Newnans, Lochloosa, and Orange Lakes



Lake Jesup

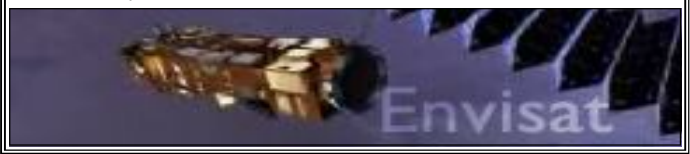


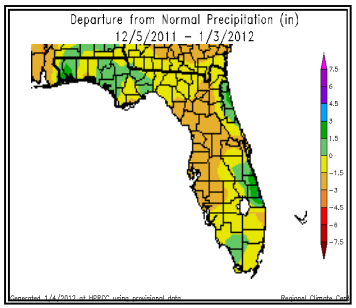
TRACKING ENVISAT IN NEAR REAL TIME
BY: Becky Lazensky, MPH

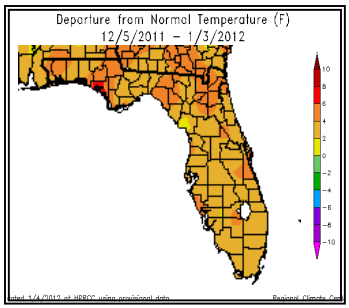
If you want to track the current location of the ENVISAT (short for environmental satellite) spacecraft in near real time, you can visit: http://www.eoportal.org/orbits/view_envisat.html to view its location and projected track. Enter your local time zone to see the current position as ENVISAT orbits the earth.

Envisat is the largest earth observation spacecraft ever developed. It carries ten optical and radar instruments (including MERIS) which provide continuous observations of land, atmosphere, oceans and ice caps.

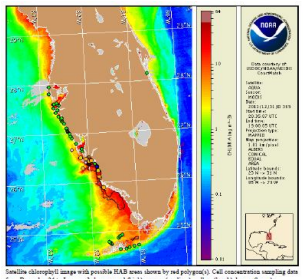
Resource: http://www.esa.int/esaEO SEMWYN2VQUD_index_0_m.html index.cfm?fobjectid=1665







Non CyanoHABs & Health Report: *K. brevis* Bloom Updates: January 3, 2012



Gulf of Mexico Harmful Algal Bloom Bulletin Region: SW Florida
Date: January 3, 2012
NOAA Ocean Service, NOAA Satellite and Information Service, NOAA National Weather Service

Confirmed Species: *Karenia brevis*

Bloom Boundary (FWRI/FWC): A patchy harmful algal bloom persists in the San Carlos Bay region of Lee County and alongshore and offshore central and southern Lee County, Collier County, and northern Monroe County. A harmful algal bloom was also last identified on 12/12 on the Atlantic side of the Florida Keys. Very low respiratory impacts are possible in this region.

Forecast: Forecasted N to NE winds will decrease the potential for impacts in coastal areas of SW FL and along the Atlantic side of the Florida Keys. Winds may minimize eastward transport of bloom concentrations in the Florida Keys region; however winds may transport bloom concentrations into the Gulf side region of the Florida Keys.

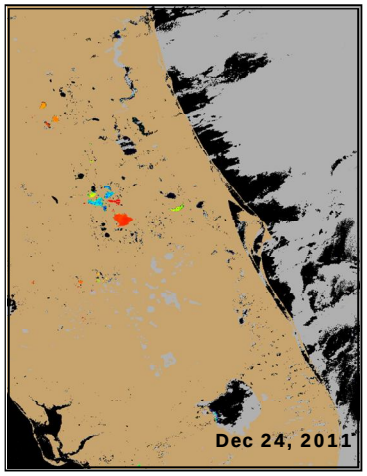
Fish kills: Reported in southern Lee County and Collier County.

Health Effects: Respiratory irritation has been associated with this bloom.

To Report a Fish Kill: Call the FWRI/FWC Fish Kill Hotline at 1-800-636-0511

Visit FWRI/FWC for Updates: http://myfwc.com/research/redtide/events/status/

Interpreting Medium Resolution Imaging Spectrometer Satellite Imagery



- The medium resolution imaging spectrometer (MERIS) is located on the Envisat satellite deployed by the European Space Agency.
- The cyanobacterial index algorithm shown in this report is designed to identify high biomass algal blooms caused by cyanobacteria. However, the current algorithm tends to have false positives, so other blooms may be "flagged". NOAA is currently testing new algorithms that are more specific to cyanobacteria.
- Data can be used to estimate near surface cyanobacteria concentrations which are an indication that algal blooms may be present.
- The mathematical algorithms used to generate the satellite images can vary, resulting in some models having a higher likelihood of detecting surface blooms.
- While patches of red or warm colors may indicate a bloom, these data have not been verified in most cases using ground-truth methods. Data collected by the satellite is considered experimental.
- Only portions of Florida are in the satellite's current coverage area.
- Several environmental factors may affect how results can be interpreted. For example, areas with abundant aquatic plant vegetation may present with a high cyanobacteria index on the color spectrum, resulting in a false positive bloom reading.
- The satellite identifies the biomass near the surface (in the upper few feet of water). As a result, it may underestimate the total biomass for blooms that are mixed or dispersed through the water column. Turbidity does not otherwise influence the algorithms. The satellite imagery does not display the species of algae present.
- Cloud coverage can obscure imagery and create patches or gray areas on map and obscure bloom detection.
- Weather conditions can impact the duration and location of blooms and the satellite imagery shown in this report may no longer be relevant. Images represent the last image taken with a realization that blooms may have moved, dissipated or intensified.

To review HABs satellite reports in the Gulf of Mexico and marine waters visit the NOAA Harmful Algal Bloom Operational Forecast System bulletin archive at: http://tidesandcurrents.noaa.gov/hab/bulletins.html

For Individual Weather Station Data Visit:
http://www.sercc.com/climateinfo/historical/historical_fl.html

Questions about the report or suggestions: You can contact
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Becky_Lazensky@doh.state.fl.us